



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Docket No. NHTSA-2013-0019

**Greenkraft Inc.; Grant of Application for a Temporary Exemption
from FMVSS No. 108**

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Notice of grant of petition for a temporary exemption from paragraph S10 of Federal Motor Vehicle Safety Standard (FMVSS) No. 108, Lamps, Reflective Devices, and Associated Equipment.

SUMMARY: This notice grants the petition of Greenkraft, Inc. (Greenkraft) for a temporary exemption from the headlamp requirements of FMVSS No. 108 for the company's 1061 and 1083 model trucks for headlamps complying with European regulatory requirements. The exemption is limited to 120 vehicles. The agency has considered Greenkraft's petition for exemption and has determined that the exemption would facilitate the development or field evaluation of a low-emission motor vehicle and would not unreasonably reduce the safety level of that vehicle if the vehicle is used in a manner consistent with the conditions discussed in this notice.

DATES: This exemption is effective immediately and runs until December 31, 2015.

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SUPPLEMENTARY INFORMATION:

I. Statutory Basis for Temporary Exemptions

The National Traffic and Motor Vehicle Safety Act (Safety Act), codified as 49 U.S.C. chapter 301, authorizes the Secretary of Transportation to exempt, on a temporary basis and under specified circumstances, motor vehicles from a motor vehicle safety standard or bumper standard. This authority is set forth at 49 U.S.C. 30113. The Secretary has delegated the authority in this section to NHTSA.

NHTSA established 49 CFR part 555, Temporary Exemption from Motor Vehicle Safety and Bumper Standards, to implement the statutory provisions concerning temporary exemptions. A vehicle manufacturer wishing to obtain an exemption from a standard must demonstrate in its application (A) that an exemption would be in the public interest and consistent with the Safety Act and (B) that the manufacturer satisfies one of the following four bases for an exemption: (i) compliance with the standard would cause substantial economic hardship to a manufacturer that has tried to comply with the standard in good faith; (ii) the exemption would facilitate the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to the safety level of the standard; (iii) the exemption would facilitate the development or field evaluation of a low-emission motor vehicle and would not unreasonably lower the safety level of that vehicle; or (iv) compliance with the standard would prevent the manufacturer from selling a motor vehicle with an overall safety level at least equal to the overall safety level of nonexempt vehicles.

For a petition for exemption from a standard to be granted on the basis that the exemption would facilitate the development or field evaluation of a low-emission motor vehicle and would not unreasonably lower the safety level of the vehicle, the petition must include specified information set forth at 49 CFR 555.6(c). The main requirements of that section include: (1) substantiation that the vehicle is a low-emission vehicle; (2) documentation establishing that a temporary exemption would not unreasonably degrade the safety of a vehicle; (3) substantiation that a temporary exemption would facilitate the development or field evaluation of the vehicle; (4) a statement of whether the petitioner intends to conform to the standard at the end of the exemption period; and (5) a statement that not more than 2,500 exempted vehicles will be sold in the United States (U.S.) in any 12-month period for which an exemption may be granted. Exemptions granted on the basis that the exemption would facilitate the development or field evaluation of a low-emission motor vehicle are limited to two years in duration.

II. Overview of Petition

Greenkraft petitioned the agency for a temporary exemption from the requirements in FMVSS No. 108 applicable to headlamps for the company's 1061 and 1083 model trucks on the basis that "the exemption would make the development or field evaluation of a low-emission motor vehicle easier and would not unreasonably lower the safety level of that vehicle." 49 U.S.C. 30113(b)(3)(B)(iii). The agency received Greenkraft's petition October 24, 2012. Greenkraft has requested that, if granted, the exemption period begin immediately.

Greenkraft is a corporation incorporated in California in 2008 and has its headquarters and manufacturing operations in Santa Anna, California. Greenkraft stated that it plans to produce the 1061 and 1083 model trucks under the requested exemption. These trucks are equipped with compressed natural gas (CNG) engines and have a gross vehicle weight rating

(GVWR) of over 14,000 pounds. Greenkraft said it plans to import the vehicle's chassis already equipped with the headlamps and install the engine at the company's manufacturing facility in California. Greenkraft stated in the petition and in subsequent communications with NHTSA that it plans to comply with FMVSS No. 108 at the end of the exemption period. Greenkraft originally planned to produce 2200 vehicles under the exemption but has revised its production plans so that it now plans to produce no more than 120 vehicles during the exemption period.

Greenkraft stated in its petition that "the [U.S.] market currently is in need of alternative fuel vehicles that run on natural gas which is abundantly available in the [U.S.]."¹ Greenkraft further stated that the price of natural gas is half the price of diesel and that many businesses in the U.S. wish to purchase natural gas powered vehicles.

A. Low Emission Vehicle

In order to be eligible for a temporary exemption on the grounds that the exemption would facilitate development or field evaluation of a low-emission vehicle without unreasonably lowering the safety performance of the vehicle, the applicant must substantiate that the vehicle is a low-emission vehicle. In order to qualify as a low-emission vehicle, the vehicle must meet the applicable standards for new motor vehicles under the Clean Air Act, 42 U.S.C. 7521, et seq. and emit an air pollutant in an amount significantly below one of those standards. The Environmental Protection Agency's (EPA) regulations issued pursuant to the Clean Air Act establish exhaust emissions thresholds for heavy-duty low-emission vehicles. These exhaust emission thresholds require that a heavy duty low-emission vehicle emit combined emissions of oxides of nitrogen and nonmethane hydrocarbons (or nonmethane hydrocarbon equivalent) of 3.8 grams or less per brake horsepower-hour or combined emissions of oxides of nitrogen and

¹ Greenkraft, Inc., Petition for Temporary Exemption on the Basis that it Would Make the Development or Field Evaluation of a Low Emission Vehicle Easier. Document No. NHTSA-2013-0019-0002.

nonmethane hydrocarbons (or nonmethane hydrocarbon equivalent) of 3.5 grams or less per brake horsepower-hour when tested (certified) on fuel meeting the specifications of California certification fuel. 40 CFR 88.105-94.

Greenkraft submitted a certification from the California Environmental Protection Agency's Air Resources Board (CARB) to substantiate that the vehicle that is the subject of the application is a low-emission vehicle. The CARB certification states that the vehicle's combined emissions of oxides of nitrogen and nonmethane hydrocarbons are 0.13 grams per brake horsepower-hour.

B. Documentation that a Temporary Exemption Would Not Unreasonably Degrade Safety

The requirements from which Greenkraft seeks a temporary exemption are the headlamp requirements in S10 of FMVSS No. 108. Greenkraft stated in its application for a temporary exemption that the primary difference between Greenkraft's low-emission vehicle, if exempted, and a compliant vehicle would be that the headlamps on Greenkraft's low-emission vehicle would not meet the minimum candela requirements for two upper beam test points and six lower beam test points and would exceed the maximum candela requirement for one upper beam test point for visually/optically aimed headlamps. Greenkraft attached to its application for an exemption a test report from a test laboratory showing that the headlamps on the vehicles that would be the subject of the exemption do not meet the upper and lower beam requirements for optically and visually aimed headlamps. Greenkraft stated in the application that granting the exemption would not unreasonably degrade the safety of the vehicle because the lamps provide "excellent illumination" even though they do not comply with the photometric requirements of FMVSS No. 108.

C. Substantiation that a Temporary Exemption Would Facilitate the Development or Field Evaluation of a Low Emissions Vehicle

Greenkraft stated that a temporary exemption would facilitate the development or field evaluation of low-emission vehicles by allowing Greenkraft to redesign the headlamp without interrupting the development of the vehicle while the headlamp is being redesigned. Greenkraft further claimed that, by beginning development and field evaluation promptly, it could receive critical data and test results to further the development of natural gas powered vehicles.

D. Public Interest

Greenkraft stated that granting the temporary exemption would be in the public interest because the exemption would help increase the availability of low-emission natural gas power vehicles to businesses in the U.S. Greenkraft stated that this would reduce the U.S. dependence on foreign oil.

III. Summary of Comments Received in Response to Notice of Receipt of Application

NHTSA published a notice of receipt of Greenkraft's petition for a temporary exemption in the Federal Register on February 21, 2013.² We received three comments in response to the notice of receipt. Advocates for Highway Safety (Advocates) and Mr. Richard Karbowski opposed granting the exemption. The Dunlap Group submitted a comment supporting granting the exemption. Greenkraft also submitted supplemental materials after the comment period closed responding to the comments of Advocates and Mr. Karbowski. Greenkraft provided further supplemental information in response to a request from NHTSA.

² 78 FR 12138.

Advocates stated that NHTSA should not grant Greenkraft an exemption because Greenkraft had not demonstrated that a temporary exemption from FMVSS No. 108 would not unreasonably degrade the safety of the vehicle as required by the Safety Act. Advocates claimed that the test report for the headlamp that Greenkraft submitted with its petition did not constitute evidence that the failure of the lamp to meet the requirements of FMVSS No. 108 would not unreasonably degrade safety. Advocates argued that Greenkraft had not shown that a headlamp, which in some cases does not meet the minimum intensity requirements of the standard by a substantial margin, would not unreasonably degrade the safety of the vehicle. Advocates also argued that Greenkraft had not provided evidence that the non-compliant headlamp is necessary to develop its low-emission vehicle.

Mr. Karbowski stated that Greenkraft had not provided any rationale that the exemption would not unreasonably degrade the safety of the vehicle. Mr. Karbowski further argued that since there are several FMVSS compliant liquefied natural gas fueled vehicles available for sale, granting the exemption would not result in the increased sales of those vehicles or environmental benefits.

The Dunlap Group stated that Greenkraft's vehicles would fill a market void for businesses looking for lower cost, clean fueled commercial vehicles.

In its supplemental submission, Greenkraft stated that the headlamps that would be installed on the 1061 and 1083 models have the E-code designation and comply with European regulatory requirements. Greenkraft argued that its analysis of the headlamp and engineering judgment indicate that the headlamps provide sufficient illumination. Greenkraft stated that the safety record of the lamps was proven by their long history of use in Europe and other countries.

Greenkraft stated that if the exemption were granted, it could begin production immediately and design a headlamp that complies with the photometric requirements of FMVSS No. 108 during the exemption period. Greenkraft stated that developing a compliant headlamp is a time intensive and costly endeavor for a new manufacturer like itself. Greenkraft stated that a delay in its ability to produce vehicles under the exemption will lead to severe economic hardship and may require the company to lay off workers. Greenkraft argued that granting the petition will increase the public's awareness of the environmental and financial benefits of low-emission commercial CNG vehicles that run on domestically produced natural gas.

In response to a request from NHTSA, Greenkraft also provided data from European regulatory authorities demonstrating the lamp's compliance with European regulatory requirements and information about Greenkraft's relationship with JAC Motors of China.

IV. Agency Analysis, Response to Comment, and Decision

We have decided to grant Greenkraft an exemption from the headlamp requirements in paragraph S10 of FMVSS No. 108 until December 31, 2015, at which time Greenkraft has stated that it will begin equipping its vehicles with lamps that comply with FMVSS No. 108.

A. Eligibility

As discussed above, the applicant must demonstrate that the vehicle emits an air pollutant in an amount significantly below one of the standards established under the Clean Air Act in order to qualify as a low-emission vehicle. Greenkraft submitted an engine certification from CARB to demonstrate that its vehicle met this criterion of eligibility for an exemption. The data from the CARB certification report shows that the vehicle's engine emits a combined oxides of nitrogen and nonmethane hydrocarbons value of 0.134 grams per brake horsepower-hour. This is significantly below the 3.5 grams or less per brake horsepower-hour emissions threshold for

heavy-duty low-emission vehicles established by the EPA.³ Based on this information, we determine that the 1061 and 1083 models equipped with CNG engines are low-emission vehicles.

B. A Temporary Exemption Would Not Unreasonably Degrade Safety

NHTSA has concluded that granting the exemption so that Greenkraft can use headlamps that comply with European regulatory requirements on the 1061 and 1083 models will not unreasonably lower the safety or impact protection level of the vehicle if the vehicle is used in a manner consistent with the conditions discussed below. NHTSA has previously granted exemptions from the headlamp requirements of FMVSS No. 108 for vehicles equipped with European headlamps.⁴ We believe that the impact of the non-compliance in this case will be minimal considering the type of vehicle for which the exemption is being sought and its expected use. The headlamp that Greenkraft plans to install on the 1061 and 1083 models provide sufficient illumination for the purposes of lane keeping and illuminating other motor vehicles that are equipped with reflectors. The area of performance for which we believe that the non-compliance of the headlamps with the minimum intensity requirements in FMVSS No. 108 could have an impact is the ability of the lamp to illuminate pedestrians and animals in the roadway in areas where there is no overhead illumination. We believe this concern will be minimized because vehicles similar to the 1061 and 1083 models generally have low pedestrian crash rates. We also believe that these concerns will be minimized because we expect, given the nature and

³ See 40 CFR 88.105-94.

⁴ See Koenigegg Automotive AB; Response to Application for a Temporary Exemption From the Headlamp Requirements of FMVSS No. 108; Advanced Air Bag Requirements of No. 208, 72 FR 17608 (Apr. 9, 2007); Group Lotus Plc; Grant of Application for a Temporary Exemption From Federal Motor Vehicle Safety Standard No. 108 and Part 581 Bumper Standard, 69 FR 5658 (Feb. 5, 2004); Ford Motor Company; Disposition of Petition for Temporary Exemption From Federal Motor Vehicle Safety Standards, 58 FR 16907 (Mar. 31, 1993) [Ford].

geographic availability of their fuel, that the 1061 and 1083 models will be driven primarily in urban areas.

The vehicles that are the subject of Greenkraft's application are medium-duty CNG fueled trucks with a GVWR of over 14,000 pounds that Greenkraft is marketing for commercial applications. Vehicles with a GVWR over 10,000 pounds are roughly half as likely to be involved in a crash with a pedestrian as light-duty vehicles.⁵ Furthermore, NHTSA expects that the vehicles that are the subject of the exemption will be used in urban areas because that is where most of the public infrastructure needed to fuel CNG vehicles is located and where their use would be most feasible for commercial purposes.⁶ We have previously stated in granting an exemption from the photometry requirements of FMVSS No. 108 that the safety impacts resulting from the differences between European and U.S. beam patterns are minimized for vehicles operating in urban areas because of the generally high nighttime ambient lighting in those environments.⁷ Overhead lighting in urban areas provides illumination to help drivers detect pedestrians in addition to a vehicle's low beam headlamps minimizing the impact of the headlamp's non-compliance. This reduces the chance that these vehicles will be in a situation in which the driver of the vehicle is relying on the vehicle's low beam headlamps to illuminate pedestrians in the roadway.

We disagree with Advocates and Mr. Karbowski as to whether Greenkraft has provided sufficient information for us to make a determination that the exemption would not unreasonably degrade the safety or impact protection of the vehicle. Greenkraft has provided a test report demonstrating the performance of the lamp and a statement that the lamp conforms to European

⁵ Federal Motor Vehicle Safety Standards; Minimum Sound for Requirements for Hybrid and Electric Vehicles, 78 FR 2798, 2816 (proposed Jan. 14, 2013) (to be codified at 49 CFR pt. 571) (comparing pedestrian crash rates between vehicles with a GVWR less than 10000 pounds and those with a GVWR above 10000 pounds).

⁶ http://www.afdc.energy.gov/fuels/natural_gas_locations.html.

⁷ See Ford, 58 FR 16910 (Mar. 31, 1993).

regulatory requirements. We believe that these materials along with the description of the vehicle and NHTSA's expertise regarding the use of commercial vehicles are sufficient to enable us to make a determination that the exemption does not unreasonably degrade the safety of the vehicle.

We do have some concerns about the decrease in performance of the headlamp that Greenkraft wishes to install on the 1061 and 1083 models when compared to a compliant lamp when the lamp is used to detect pedestrians and animals in areas where there is no overhead illumination of the roadway. A properly aimed low beam headlamp meeting, but not exceeding, the minimum required luminous output in FMVSS No. 108 at the down the road 0.6D – 1.3R test point would illuminate a pedestrian approximately 180 feet from the vehicle. The headlamp Greenkraft wishes to use provides only 73% of the required light output at this same test point, which could reduce the detection distance of a pedestrian or animal in the roadway by around 20 – 30 feet.

Because of our concerns about the impact of the exemption on the driver of the vehicle's ability to see pedestrians and other objects in the road in areas where there is no overhead illumination we are granting this petition with conditions on how the vehicle is to be marketed. We believe that it is most appropriate for the 1061 and 1083 models to be used in urban areas during daylight hours with minimal night time use. We believe that it is most appropriate that the vehicles be marketed as commercial delivery vehicles. We do not believe that it would be appropriate for these vehicles to be marketed for any purpose that would entail substantial use at night. We also expect Greenkraft to inform its dealers of the conditions regarding marketing that accompany the grant of this exemption. If we determine that vehicles produced under the exemption are being marketed in a manner that is not consistent with these conditions, we will

examine whether the exemption should be terminated under 49 CFR 555.8(d) because the exemption is no longer in the public interest. For these reasons, we believe that the exemption will not unreasonably degrade the safety or impact protection of the vehicle if used in a manner consistent with the conditions described above.

C. A Temporary Exemption Would Facilitate the Development or Field Evaluation of a Low Emissions Vehicle

We have concluded that an exemption from the headlamp requirements of FMVSS No. 108 would make the development or field evaluation of a low-emission motor vehicle easier. Granting the exemption will allow Greenkraft to produce vehicles while the company designs a headlamp that complies with FMVSS No. 108. We believe that allowing Greenkraft to produce and sell vehicles during the exemption period will demonstrate to the public the environmental benefits and viability of CNG powered vehicles. For these reasons we agree with Greenkraft that granting this exemption will aid the development of low-emission vehicles.

D. An Exemption is in the Public Interest

We also find that this exemption is consistent with the public interest and the objectives of the Safety Act. NHTSA has traditionally found that the public interest is served by affording consumers a wider variety of motor vehicles, by encouraging the development and field evaluation of fuel-efficient and alternative-energy vehicles, and by providing additional employment opportunities. We believe that allowing Greenkraft to produce vehicles during the exemption period will further all of these objectives. Allowing Greenkraft to manufacture and sell these vehicles during the exemption period will provide consumers access to clean fueled vehicles that run on a domestically produced energy source. Furthermore, Greenkraft is a manufacturer located in California that employs approximately 35 people. Granting this

exemption will enable Greenkraft to more quickly begin selling vehicles which will allow the company to begin realizing revenues from vehicle sales. The revenues from these vehicle sales will allow Greenkraft to continue to employ individuals involved in the manufacture and sale of these vehicles.

We note that prospective purchasers will be notified that the vehicle is exempted from the requirements in paragraph S10 of FMVSS No. 108, Lamps, Reflective Devices, and Associated Equipment. Under 49 CFR 555.9(b), a manufacturer of an exempted vehicle must affix securely to the windshield or side window of each exempted vehicle a label containing a statement that the vehicle conforms to all applicable FMVSSs in effect on the date of manufacture “except for Standard Nos. [listing the standards by number and title for which an exemption has been granted] exempted pursuant to NHTSA Exemption No. ____.” This label notifies prospective purchasers about the exemption and its subject. Under § 555.9(c), this information must also be included on the vehicle’s certification label.

E. Agency Decision

In consideration of the foregoing, we conclude that granting the requested exemption from the requirements in paragraph S10 of FMVSS No. 108, Lamps, Reflective Devices, and Associated Equipment, would facilitate the development or field evaluation of a low-emission vehicle, and would not unreasonably lower the safety or impact protection level of that vehicle if the vehicle is marketed as a commercial vehicle for use during day light hours. Marketing the 1061 and 1083 models for any purpose that would entail substantial use at night is not consistent with this temporary exemption. We further conclude that granting this exemption is in the public interest and consistent with the objectives of the Safety Act subject to the conditions described above. We would like to emphasize that this exemption from FMVSS No. 108, Lamps,

Reflective Devices, and Associated Equipment is limited to paragraph S10 of that standard. Any vehicle manufactured or sold under this exemption must conform to all other applicable requirements of FMVSS No. 108. This exemption is limited to 120 CNG fueled vehicles. In addition, this exemption is conditioned on Greenkraft's marketing the exempted vehicles as commercial vehicles for use during day light hours. As part of these efforts, Greenkraft should ensure that potential purchasers are informed that the exempted vehicles should be used primarily during daylight hours.

In accordance with 49 U.S.C. 30113(b)(3)(B)(iii), Greenkraft is granted NHTSA Temporary Exemption No. EX 15-01 from paragraph S10 of FMVSS No. 108. The exemption shall be effective from the date on which notice of this decision is published in the **Federal Register** until **December 31, 2015**, as indicated in the DATES section of this document.

(49 U.S.C. 30113; delegations of authority at 49 CFR 1.95)

Issued in Washington, DC on February 25, 2015 under authority delegated in 49 CFR part 1.95.

Mark R. Rosekind,
Administrator.

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